

ovatis, rotundatis, lateralibus paullo brevioribus, labio superiore late truncato-rotundato vel obscure retuso; ovario globoso, glabro; stylis filamentisque glabris; fructibus immaturis subglobosis, glabris, 4-locellatis, circiter 4 mm. diametro.

PHILIPPINES: Luzon, Rizal Province, Mount Irig and Mount Lumutan, Bur. Sci. 41873 (type, herb. Arnold Arboretum) 42171 Ramos, February and April, 1923.

A species clearly belonging to the section Premnos, strongly characterized by its nearly glabrous, entire, long acuminate, shining leaves, these and the inflorescences characteristically black when dry. By the characters of Dr. Lam's key to the Malaysian species it falls in the group with Premna benguetensis Merr., a species totally different in all respects.

NOVELTIES IN THE ERICCAULACEAE AND VERBENACEAE

Harold N. Moldenke

SYNGONANTHUS VAUPESANUS Moldenke, sp. nov.

Herba acaulis; foliis caespitosis reflexis numerosis linearibus obtusis utrinque glabris nitidisque; pedunculis gracillimis aggregatis bicostatis dense albido-tomentellis; vaginis glabris.

Acaulescent herb; leaves basal, tufted, reflexed or appressed to the ground, numerous, linear, 1--3.3 cm. long, about 1 mm. wide at the middle, blunt at apex, glabrous and shining on both surfaces; peduncles very slender, aggregate, 4--6 or more per plant, 15--24 cm. long, 2-costate, slightly twisted, densely white-tomentellous throughout; sheaths narrow, closely appressed, equaling or surpassing the leaves, 1.5--3 cm. long, slightly twisted, glabrous, obliquely split at apex, the blade appressed and bluntish; heads hemispheric, 3--9 mm. in diameter; involucre bracts numerous, very conspicuous and showy, white, their margins subhyaline, obovate or oblanceolate, the outermost ones slightly stramineous, about 2.5 mm. long and 1.5 mm. wide, the inner ones about 4.5 mm. long and 2 mm. wide, rounded at apex, more or less navicular-cucullate, glabrous; receptacle densely villous with tenuous translucent hairs; staminate florets: sepals 3, separate, hyaline, translucent, oblanceolate, about 2 mm. long and 0.5 mm. wide, rounded at apex, glabrous; petal-tube very pale-stramineous, translucent, 1.3--1.4 mm. long, glabrous, ampilate and 3-lobed at apex, the lobes very short, rounded,

and involute; stamens 3; anthers white, versatile; pistillate florets: sepals 3, separate, broadly elliptic, 1.8--1.9 mm. long, about 0.9 mm. wide, rounded at apex, hyaline and translucent, glabrous; petals 3, connate at apex, oblanceolate, about 1.9 mm. long and 0.4 mm. wide at apex, densely pilose with long antrorse silky hairs; style very short, infundibular-ampliate toward apex, glabrous; stigmas 3; style-appendages longer than the stigmas; ovary 3-celled, 3-seeded

The type of this species was collected by José Cuatrecasas (no. 6973) at Yurupari, alt. 220 m., about 350 km. above Mitú, Vaupes, Colombia, on September 24, 1939, and is deposited in the United States National Herbarium at Washington. The species is obviously related to S. niveus (Bong.) Ruhl.

ARGIPHILA CUATRECASASI Moldenke, sp. nov.

Arbor parva; ramis percrassis tetragonis adpresso-puberulis vel furfuraceis glabrescentibus valde medullosis; foliis oppositis permagnis; petiolis crassis densissime adpresso-puberulis; laminis chartaceis vel submembranaceis late ellipticis utrinque puberulento-pulverulis, ad apicem acutis vel breviter acuminatis, ad basin acuminatis.

Small tree, about 5 m. tall; branches very coarse and stout, tetragonal, more or less densely appressed-puberulent or furfuraceous with very minute sordid furf, glabrous in age, marked with scattered corky elongated lenticels, very medullose with large white pith; nodes slightly flattened; principal internodes 3--5 cm. long; leaves decussate-opposite, very large; leaf-scars very large, prominent, and corky; petioles stout, 3.5--5 cm. long, very densely appressed-puberulent with grayish-brown hairs; blades chartaceous or submembranous, broadly elliptic, lighter and more grayish-green beneath, 32--35 cm. long, 15--17 cm. wide, acute or short-acuminate at apex, acuminate at base, entire, densely puberulent-pulverulent with very minute appressed pulverulence above, somewhat more conspicuously and densely puberulent beneath with sordid yellowish or grayish puberulence; midrib very stout, flat or slightly prominulous above, very much rounded-prominent beneath, decreasing rapidly in diameter as the apex is approached, densely puberulent; secondaries slender, 13--20 per side, ascending, not much arcuate except near the margins where they are arcuately joined, flat above, prominulous beneath; veinlet reticulation rather abundant, obscure or indiscernible above, the larger portions slightly prominulous beneath; inflorescence axillary, glomerate, apparently borne on the older wood; flowers not seen; peduncles none; fruiting-pedicels very stout, about 5 mm. long, densely furfuraceous-puberulent, verruculose; fruiting-calyx very large and incrassate, cupuliform, about 1 cm. long and 1.5 cm. wide, verruculose, glabrate,

the rim subtruncate; fruit drupaceous, oblong, about 15 mm. long, 12--14 mm. wide, glabrous, shiny, with a conspicuous corky scar at the apex; seeds 4, elongate-oblong.

The type of this remarkable species was collected by Jose Cuatrecasas (no. 8566) below Gabinete, alt. 2100--2250 m., Quebrada del Río Haoha, eastern slope of the Cordillera Oriental, Caquetá, Colombia, on March 23, 1940, and is deposited in the United States National Herbarium at Washington. It is obviously related to A. Gleasonii Moldenke and A. sessiliflora Moldenke.

ARGIPHILA HAUGHTII Moldenke, sp. nov.

Frutex gracilis; ramulis gracilibus sparsissime pilosulis glabrescentibus; foliis oppositis; petiollis minutissime puberulentis vel glabris; laminis membranaceis obovatis vel obovato-ellipticis longe acuminatis integris, ad basin cuneato-attenuatis, utrinque minutissime puberulis glabrescentibus; inflorescentiis axillaribus cymosis paucifloris.

Slender shrub, about 2 m. tall; branchlets slender, gray, very sparsely pilosulous on the nodes and younger parts, glabrous in age; nodes not annulate; principal internodes 1.5--10 cm. long; leaves decussate-opposite, usually about 2 pairs clustered near the apex of the season's growth; petioles rather slender, 5--10 mm. long, very minutely puberulent or glabrous; blades membranous, obovate or obovate-elliptic, 11--24 cm. long, 3.7--8.3 cm. wide, rather long-acuminate at apex, entire, cuneate-attenuate at base, very minutely and obscurely puberulent on both surfaces, glabrescent in age; midrib slender, flat above, prominent beneath; secondaries slender, about 10 per side, arcuate-ascending, prominulous beneath and slightly so above, plainly anastomosing near the margins; veinlet reticulation very abundant, slightly prominulous on both surfaces; inflorescence axillary, cymose; cymes solitary in the uppermost axils, 5--6.5 cm. long, 3--4 cm. wide, few- (about 7-) flowered, much shorter than the subtending leaves; peduncles very slender or subfiliform, about 3.5 cm. long, glabrous or obscurely puberulent at apex; pedicels filiform, 5--8 mm. long, glabrous; calyx cupuliform, about 2.7 mm. long and 3 mm. wide, glabrous, blackening in drying, its rim truncate and entire; corolla hypocrateriform, white and rather showy, nigrescent in drying, its tube slender, about 8 mm. long, glabrous, its lobes 5, oblong-lingulate, 4--5 mm. long, glabrous.

The type of this distinctive species was collected by Oscar Haught (no. 2904) -- in whose honor it is named -- at the foot of Cerro Cimalon, alt. about 50 m., on Hacienda Vainillo, Guayas, Ecuador, on October 7, 1939, and is deposited in the United States National Herbarium at Washington. It cannot be confused with any other species in the group.

REGIPHILA STEINBACHII Moldenke, sp. nov.

Frutex vel arbor; ramulis tetragonis adpresso-puberulis; sarmentis gracilibus obtuse tetragonis densissime tomentellis velutinis; foliis oppositis; petiolis gracilibus; laminis membranaceis ovatis acutis vel acuminatis integris, ad basin acutis vel subtruncatis, supra densissime velutinis, subtus dense breviterque pubescentibus; inflorescentiis terminalibus paniculatis; cymis multifloris.

Shrub or tree, to 5 m. tall; branches tetragonal, often decussately flattened, more or less appressed-puberulent; twigs slender, obtusely tetragonal, very densely tomentellous with grayish-brown tomentum, velvety to touch; nodes not annulate; principal internodes 1.5--5.5 cm. long; leaves decussate-opposite; petioles slender, 5--8 mm. long; blades membranous, uniformly green on both surfaces or somewhat lighter beneath, ovate, 7--12 cm. long, 3--6.5 cm. wide, acute or acuminate at apex, entire, acute or subtruncate at base, very densely velutinous with more or less subappressed multicellular hairs above, densely short-pubescent beneath with sordid-grayish hairs; inflorescence terminal, paniculate; peduncles and rachis densely sordid-tomentellous like the branches; cymes small, abbreviated, 1.5--4 cm. long, many-flowered; bractlets subulate, to 7 mm. long, densely strigose-tomentellous; pedicels very slender, about 1 mm. long, densely appressed-pubescent; calyx infundibular, 3--4 mm. long and wide, rather densely appressed-pubescent, its rim deeply 4-lobed, the lobes broadly triangular, about 1 mm. long, acute; corolla hypocrateriform, its tube narrow-cylindric, about 4 mm. long, glabrous, its limb 4-parted, the lobes oblong-lingulate, 2--2.5 mm. long; stamens 4, long-exserted; filaments filiform, 7--8 mm. long, glabrous.

The type of this species was collected by José Steinbach (no. 3168) -- in whose honor it is named -- at Bosquecitos San Javier, Sara, alt. 450 m., Santa Cruz, Bolivia, on November 16, 1916, and is deposited in the Britton Herbarium at the New York Botanical Garden. This collection was erroneously cited by me in *Brittonia* 1: 406 (1934) and *Phytologia* 1: 240 (1937) as *A. mollis* H.B.K., which has a subtruncate calyx-rim and therefore belongs to an entirely different section of the genus. It is very probable that all the other Bolivian specimens cited by me as *A. mollis* are also this new species and that *A. mollis* does not occur in Bolivia.

ALOYSIA ALOYSIOIDES Loes. & Moldenke, sp. nov.

Frutex; ramis medioeriter gracilibus obtuse tetragonis glabris suberosis; sarmentis brevibus parce pilosis; petiolis gracilibus parce pilosis; laminis membranaceis ovatis obtusis vel rotundatis, ad basin truncatis vel subtruncatis, crasse dentatis, subrevolutis, supra scabris, subtus puberu-

lis; inflorescentiis axillaribus dense multifloris.

Shrub; branches medium-slender, obtusely tetragonal, glabrous, gray, with very large and elevated leaf-scars projecting 2--3 mm. in divaricate fashion from the branches, corky; nodes not flattened nor annulate; twigs short, sparsely pilose with scattered hairs, the nodes often rather obscurely annulate with a line of hairs; leaves decussate-opposite; principal internodes 1--3 cm. long; petioles slender, 1--2 mm. long, sparsely scattered-pilose; blades membranous, rather uniformly light-green on both surfaces or somewhat lighter beneath, ovate, 1.5--5 cm. long, 1.5--2.5 cm. wide, obtuse or rounded at apex, truncate or subtruncate at base or slightly prolonged into the petiole when young, coarsely dentate from almost the base to the apex with rounded broadly triangular teeth, the margins slightly revolute, scabrous above, densely or sparsely puberulent beneath; midrib, secondaries, and veinlet reticulation conspicuous on both surfaces, subimpressed above, prominulous and dark beneath; inflorescence axillary; spikes 5--8.5 cm. long, about 1 cm. wide in anthesis, densely many-flowered; peduncles very slender, 2--3 cm. long, rather sparsely pilose-puberulent with spreading hairs like the twigs and petioles; rachis more densely spreading-pilose; prophylla lanceolate, 2--3 mm. long, long-acuminate at apex, attenuate at base, pilose-ciliate; calyx about 1.5 mm. long and wide, very densely villous; corolla-tube about 5 mm. long, glabrous outside, its limb about 3 mm. wide.

The type of this species was collected by August Weberbauer (no. 5206) below Surco, dept. Lima, Peru, alt. 1800 m., in February, 1909, and is deposited in the herbarium of the Field Museum of Natural History at Chicago. The cheiromym, Lippia aloysioides Loes., appears on the label.

ALOYSIA HERRERAE Moldenke, sp. nov.

Frutex; ramulis graciusculis tetragonis glabrescentibus; petiolis gracillimis perbrevis vel obsolete pilosulo-puberulentis; laminis chartaceis oblongis vel oblongo-ellipticis acutis vel subacutis integris, ad basin acutis, supra scaberrimis, subtus scabris et dense resinoso-punctatis; inflorescentiis axillaribus terminalibusque.

Shrub; branches rather slender, tetragonal, stramineous or brownish, glabrous and shiny in age, finely and very obscurely scattered-puberulent on the youngest parts; nodes annulate; principal internodes 2--5.5 cm. long; twigs short and very slender; leaves decussate-opposite; petioles very slender, 1--2 mm. long or obsolete, pilosulous-puberulent; blades chartaceous, bright-green above, lighter beneath, oblong or oblong-elliptic, 0.9--4.5 cm. long, 3--10 mm. wide, acute or subacute at apex, acute at base, entire, very scab-

rous above with very short stiff bulbous-based hairs, scabrous beneath with shorter hairs and also densely resinous-punctate; veinlet reticulation impressed above on smaller leaves, obscure on larger ones, conspicuous but flat beneath; inflorescence axillary and terminal, the spikes abbreviated, 7--12 mm. long, many-flowered; peduncles 1--2 mm. long, very slender, densely puberulent; calyx tubular, about 2 mm. long, densely puberulent, not hirsute, its rim slightly flaring and triangular-toothed; corolla-tube about 4 mm. long, densely short-pubescent outside, its limb about 3 mm. wide.

The type of this remarkable species was collected by Fortunato L. Herrera (no. 1534) -- in whose honor it is named -- at an altitude of 3000 m. in the Urubamba Valley, Peru, in July, 1927, and is deposited in the herbarium of the Field Museum at Chicago. A common name recorded by the collector is "cedronsillo".

ALOYSIA LEPTOPHYLLA Loes. & Moldenke, sp. nov.

Frutex (?); ramis gracilibus sparsiuscule albo-hirsutis medullosis; foliis sessilibus amplexicaulis; laminis membranaceis ovatis ad apicem rotundatis, at basin cordatis, crasse dentatis subrevolutis utrinque plusminus hirsutis; inflorescentiis axillaribus terminalibusque dense multifloris.

Shrub (?); branches slender, tetragonal, rather sparsely and irregularly hirsute with white hairs, more densely so toward the apex, medullose; nodes not flattened nor annulate; principal internodes 3--4 cm. long, not lenticellate; leaves decussate-opposite, sessile and more or less clasping at base; blades membranous, ovate, rather uniformly green on both surfaces or somewhat lighter beneath, 2--5 cm. long, 1.5--4 cm. wide, rounded at apex, cordate at base and clasping the stem, coarsely dentate from base to apex with broadly triangular teeth, the margins slightly revolute, more or less densely hirsute above with weak whitish bulbous-based hairs, somewhat hirsute and also more or less densely puberulent beneath, the larger venation often subimpressed above, prominulous beneath; inflorescence axillary and terminal; spikes 5--8 cm. long, densely many-flowered, erect or ascending; peduncles very slender, 2--3 cm. long, rather densely hirsute-pubescent like the branches, often surmounted by a pair of foliaceous bracts about 1 cm. long and 7 mm. wide, dentate, sessile, hirsute; bractlets large and conspicuous, lanceolate, 5--6 mm. long, 1--1.2 mm. wide, acuminate-attenuate at both ends, hirsute; calyx about 3 mm. long, densely spreading-hirsute, its rim long-toothed with subulate-attenuate teeth; corolla-tube 5--6 mm. long, entirely glabrous outside, its limb about 4 mm. in diameter.

The type of this remarkable species was collected by August Weberbauer (no. 5374) somewhere in Peru between 1909 and 1914 and is deposited in the herbarium of the Field Museum of Natural History at Chicago.

ALOYSIA MINTHIOSA Moldenke, sp. nov.

Frutex; ramis ramulisque gracilibus tetragonis densely pulverulento-puberulis resinoso-granulosis; internodiis abbreviatis; foliis sessilibus vel subsessilibus; laminis subcoriaceis elliptico-ovatis supra pernitidis, ad apicem obtusis, regulariter serrulatis subrevolutis utrinque dense pulverulento-puberulis et resinoso-glandulosis; inflorescentiis axillaribus densissime multifloris; calyce non villosa.

Shrub, with a mint-like fragrance; branches and branchlets slender, obtusely tetragonal, more acutely so when young, densely but obscurely pulverulent-puberulent and resinous-granular when young, less so in age; nodes not annulate; principal internodes abbreviated, 5--20 mm. long; leaf-scars small but very prominent, divaricate-raised; leaves decussate-opposite, sessile or practically so; leaf-blades subcoriaceous, uniformly bright-green on both surfaces, elliptic-ovate, very shiny above, 7--19 mm. long, 5--12 mm. wide, obtuse at apex, uniformly serrulate from almost the base to the apex with blunt and subrevolute teeth, densely but obscurely pulverulent-puberulent on both surfaces, less densely so above in age, and resinous-glandular; midrib and venation somewhat impressed above, flat beneath; inflorescence axillary, abundant, 4--15 cm. long, spicate, very densely many-flowered; peduncles and rachis very slender, densely puberulent, the former 4--15 mm. long; prophylla numerous, lanceolate, 1--1.5 mm. long, acuminate, puberulent; calyx about 2 mm. long, densely puberulent, not villous, its rim unequally 4-lobed; corolla about 5 mm. long, its limb 4-lobed, the lobes subequal, the tube short, puberulent within; stamens 4; anthers subsessile; style terminal; stigma very minutely 2-lobed; ovary 2-celled, each cell with a single basal ovule.

The type of this species was collected by J. Francis Macbride & Featherstone (no. 2564) in a cliff crevice, alt. about 2000 feet, Yautan, Peru, on October 9, 1922, and is deposited in the herbarium of the Field Museum at Chicago.

ALOYSIA NAHUIRE Gentry & Moldenke, sp. nov.

Frutex; ramulis elongatis gracilibus debilibus fere subteretibus glabrescentibus; sarmentis substrigoso-puberulis; petioliis chartaceis breviter pubescentibus vel strigosis; laminis chartaceis lanceolato-ellipticis acutis vel breviter acuminatis regulariter serrulatis, ad basin acutis, supra scabris bullatis, subtus puberulis dense resinoso-punctatis.

Very slender shrub, 1--4 m. tall, with licorice-like odor; branches elongate, slender, weak, very obscurely tetragonal or almost subterete, glabrous in age; twigs substrigose-puberulent; leaf-scars large, concave, corky, rather prominent on the branches; nodes not annulate nor flattened; principal internodes 1--5.5 cm. long; leaves decussate-opposite; petioles very slender, 2--6 mm. long, short-pubescent or strigose; blades chartaceous, bright-green on both surfaces, lanceolate-elliptic, 3--12.5 cm. long, 1.2--3.7 cm. wide, acute or short-acuminate at apex, acute at base, regularly serrulate from almost the base to the apex, scabrous above with very minute whitish bulbous-based hairs and bullate, puberulent and densely resinous-punctate beneath; midrib, secondaries, and veinlet reticulation deeply impressed above, prominent beneath; inflorescence axillary, nutant, 3--4.5 cm. long, densely many-flowered, hop-like; peduncles filiform, densely strigose-puberulent; rachis densely spreading-puberulent; bracts foliaceous, hop-like, elliptic, about 8 mm. long and 4 mm. wide, acute or short-acuminate at apex, rounded at base, densely silky-pubescent with long appressed whitish hairs, very conspicuous; calyx about 2.5 mm. long, very densely hirsute; corolla-tube very slender, about 5 mm. long, sparsely spreading-pilose outside, its limb about 3.4 mm. wide.

The type of this remarkable species was collected by Howard Scott Gentry (no. 5721) in Croton Monte, in a coastal thorn forest, Cerro Tecamate, west of Pericos, alt. 100 feet, Sinaloa, Mexico, on February 27, 1930, and is deposited in the Britton Herbarium at the New York Botanical Garden. Tea is made locally from the foliage and the vernacular name is "nahuire".

CARYOPTERIS INCANA var. *BRACHYDONTA* (Hand.-Mazz.) Moldenke, comb. nov.

Caryopteris tangutica var. *brachyodonta* Hand.-Mazz., Acta Hort. Goth. 9: 68. 1934.

CITHAREXYLUM DRYANDERAE Moldenke, sp. nov.

Arbor; ramulis acutis tetragonis densiuscule farinaceo-puberulis; foliis oppositis; petiollis crassiusculis densiuscule farinaceo-puberulis in sicco corrugatis; laminis coriaceis ellipticis acutis integris, ad basin plerumque acutis, supra glabris et nitidis, subtus densely adpresso-tomentellis, ad basin biglandulosis; inflorescentiis racemoso-spicatis multifloris, rhachide dense adpresso-furfuraceo.

Tree, about 5 m. tall; branchlets stout, acutely tetragonal, rather densely farinaceous-puberulent with sordid-brownish furf; nodes flattened, not annulate; leaf-scars very large, ampliate, corky; principal internodes 2--5 cm.

long; leaves decussate-opposite; petioles stoutish, 3--4.5 cm. long, rather densely farinaceous-puberulent like the branchlets, wrinkled-striate in drying, ampliate at base; blades coriaceous, gray-green and shiny above, yellow-green beneath, elliptic, 11--19 cm. long, 3--7 cm. wide, acute at apex, entire, usually acute (sometimes rounded) at base, glabrous above, densely appressed-tomentellous or furfuraceous with yellowish furf beneath, bearing two large and prominent glands parallel to the petiole at the very base; midrib stout, impressed above, very prominent beneath; secondaries slender, 10--15 per side, arcuate-ascending, flat and rather inconspicuous above, very prominent and glabrous beneath; veinlet reticulation abundant, flat and often rather inconspicuous above, the larger portions prominulous and glabrous beneath; inflorescence racemose-subspicate, 8--14 cm. long, many-flowered, solitary in the upper axils, erect; flowers not seen; fruiting peduncles stout, 1--2.5 cm. long, more or less densely appressed-furfuraceous; rachis in fruit stout and wrinkled-striate, densely appressed-furfuraceous with brownish furf; fruiting-pedicels stout and incrassate, about 1 mm. long or less, densely appressed-furfuraceous; fruiting-calyx indurated, 5--6 mm. long, 9--10 mm. wide, venose, glabrate, the rim irregularly lobed; fruit drupeaceous, fleshy, oblong-elliptic, 7--12 mm. long, 5--9 mm. wide, glabrous, shiny, red.

The type of this species was collected by Editha Dryander (no. 2362) -- in whose honor it is named -- at an altitude of 2000 m. in El Valle, Colombia, in May, 1939, and is deposited in the United States National Herbarium at Washington

CITHAREXYLUM ROSEI var. *DURANGENSIS* Moldenke, var. nov.

Haec varietas a forma typica speciei recedit foliis minute obscureque puberulis, pilis brevissimis adpressis.

This variety differs from the typical form of the species in having its leaves only very minutely and obscurely puberulent on both surfaces with very short appressed grayish hairs.

The type of this variety was collected by Forrest Shreve (no. 9122) on outwash plains near Pasaje, alt. 4650 feet, Durango, Mexico, on August 23, 1939, and is deposited in his herbarium at Tucson, Arizona. He describes the plant as a shrub 6 feet tall, with its mature fruit red in color.

CITHAREXYLUM STEYERMARKII Moldenke, sp. nov.

Frutex; ramis tetragonis brunneis glabris nitidis; sarmenis minute puberulis; laminis maturis subcoriaceis ellipticis acuminatis integris, ad basin acutis vel acuminatis, utrinque glabris vel obscure pulverulento-punctatis; inflorescentiis terminalibus racemiformibus dense multifloris.

Shrub, to 10 feet tall; branches tetragonal, brownish, glabrous, medium-slender, shiny; youngest twigs minutely puberulent; nodes annulate; principal internodes 1.5--10.5 cm. long; leaves decussate-opposite; petioles stout, 5--18 mm. long, glabrous; leaf-scars large, corky, prominent, divergent, 3--4 mm. long; blades chartaceous when young, subcoriaceous when mature ("firmly membranaceous" according to the collector), elliptic, 6--18 cm. long, 2--7.8 cm. wide, acuminate at apex, entire, often slightly undulate along the margins, acute or acuminate at base, glabrous or very minutely and obscurely pulverulent-punctate on both surfaces, very minutely and obscurely short-puberulent along the midrib above; midrib slender, flat or subimpressed above, very prominent beneath; secondaries slender, 7 or 8 per side, arcuate-ascending, flat or subprominulous above, very sharply prominent beneath, joined in many loops near or at the margins beneath; veinlet reticulation very abundant, conspicuously prominulous above, sharply prominulous beneath; inflorescence terminal, racemiform; racemes simple or the large ones branched at base, 6--15 cm. long, densely many-flowered; peduncles (2--2.5 cm. long) and rachis slender, minutely puberulent; pedicels very slender, 1--2 mm. long, puberulent, in fruit to 3 mm. long and glabrescent; calyx campanulate, about 3 mm. long and wide, light, very shiny, glabrous, the rim truncate and entire, short-ciliolate; corolla hypocrateriform, sweet-scented, its tube 5 mm. long, its lobes spreading, slightly squarrose, densely pubescent within; fruiting-calyx slightly indurated, cupuliform, about 3 mm. long and 5 mm. wide, glabrous, light-colored, very shiny, its rim entire and truncate; immature fruit subglobose, about 5 mm. long and wide, glabrous, shiny.

The type of this species was collected by Julian A. Steyermark (no. 31,433) on shaded cloud-forest slopes on top of Volcan Quezaltepeque, 3--4 miles northeast of Quezaltepeque at an altitude of 1500--2000 m., Chiquimula, Guatemala, on November 8, 1939, and is deposited in the herbarium of the Field Museum at Chicago. The type is in fruit. An isotype at Chicago is in anthesis and is remarkable in having much larger and thinner leaves, only chartaceous in texture and to 18 cm. long and 7.8 cm. wide. The type has its leaves subcoriaceous in texture and only 4.5--11.5 cm. long and 1.8--4.2 cm. wide.

OITHAREXYLUM VALLENSE Moldenke, sp. nov.

Arbor; ramulis percrassis acute tetragonis marginatis dense puberulo-farinosis glabrescentibus; foliis oppositis; petiolis crassis pulverulento-farinosis glabrescentibus; laminis coriaceis ovatis acutis vel breviter acuminatis in-

tegris, ad basin acutis, utrinque sparsissime pulverulentis glabrescentibus, ad basin biglandulosis; inflorescentiis axillaribus spicatis dense multifloris; rachide percrasso.

Tree, to 8 m. tall; branchlets very coarse and heavy, sharply tetragonal, decussately flattened and ampliate at the nodes, margined, densely pulverulent-farinose when young, glabrescent in age; nodes plainly annulate with a circumferential ridge; principal internodes 3—6 cm. long (at tips of branchlets); leaves decussate-opposite; petioles heavy, about 5 cm. long, pulverulent-farinose, glabrescent in age; blades coriaceous, dark-green above, lighter beneath, ovate, about 30 cm. long, 10—12 cm. wide, acute or short-acuminate at apex, entire, acute at base and there bearing 2 large black glands parallel to the midrib, very sparsely pulverulent along the midrib and larger veins on both surfaces, glabrescent in age; midrib heavy, flat or subimpressed above, very prominent beneath; secondaries slender, about 15 per side, flat above, sharply prominent beneath, arcuate-ascending, conspicuously joined in many loops near the margins; veinlet reticulation obscure or indiscernible above, prominulous beneath; inflorescence spicate, axillary, 8—15 cm. long, densely many-flowered; peduncles (1—2 cm. long) and rachis very stout, very densely furfuraceous with sordid grayish or buff-colored furf, less densely so in age; pedicels obsolete; prophylla tiny, scale-like, 1—1.5 mm. long, densely furfuraceous or pulverulent-farinose; calyx tubular, heavy and coriaceous, 6—8 mm. long, 4—5 mm. wide, densely furfuraceous-farinose with sordid grayish or buff-colored furf; corolla white, barely protruding from the calyx, its limb 5-parted, the lobes elliptic-lingulate, about 3 mm. long, densely pilose at base.

The type of this species was collected by Ellsworth Paine Killip and Hernando García y Estriga (no. 33,940) in a dense forest, San Antonio, west of Cali, near the summit of the Cordillera Occidental, alt. 1900—2350 m., between February 26 and March 2, 1939, and is deposited in the Britton Herbarium at the New York Botanical Garden.

DURANTA MACRODONTA Moldenke, sp. nov.

Frutex; ramis gracilibus inermis plusminus tetragonis breviter adpresso-pubescentibus medullosis; foliis oppositis; petiolis gracillimis submarginatis dense adpresso-pubescentibus vel strigosis; laminis membranaceis ovatis vel subrotundis, ad basin et apicem breviter acuminatis, crasse dentatis, utrinque sparsissime pilosulis; inflorescentiis paniculatis foliosis multifloris.

Shrub, 4—5 feet tall; branches slender, unarmed, more or less tetragonal, the younger parts decussately flattened at the nodes, shortly appressed-pubescent with sordid-grayish

hairs, corky-lenticellate, brunnescent, medullose; nodes not annulate, flattened; buds very densely villous-pubescent with sordid-canescens hair; leaves decussate-opposite; petioles very slender, 4--6 mm. long, deeply canaliculate above, submargined, densely appressed-pubescent or strigose with sordid-canescens hair; blades membranous, uniformly dark-green on both surfaces, brunnescent in drying, ovate or the youngest subrotund, 2--5.8 cm. long, 1--4.8 cm. wide, short-acuminate at apex and base, coarsely dentate with broadly triangular teeth from below the middle to the base of the terminal acumination, very sparsely and obscurely pilosulous on both surfaces with widely scattered hairs, more densely so on the midrib; inflorescence supra-axillary and terminal, the supra-axillary ones aggregated near the tips of the branches, forming a loose and leafy terminal panicle; racemes 9--18 cm. long, about 2 cm. wide, rather densely many-flowered, not secund, erect or recurved; peduncle slender, 1--2.5 cm. long, brunnescent, more or less appressed-pilose like the branches; rachis similar, but more densely appressed-pilose with sordid-canescens hairs; bracts often leafy, 1--6 at the base of the racemes, ovate, 5--15 mm. long, acuminate at apex and base, stipitate, pilosulous; prophylla linear-setaceous, 3--5 mm. long, densely strigose, persistent, conspicuous; pedicels about 2 mm. long, densely canescens-pubescent; calyx tubular-campanulate, about 3 mm. long, about 3 mm. wide at the apex, uniform, densely strigose with sordid-canescens hairs like the branches and rachis, its rim long-apiculate, the apiculations 1 mm. long and densely strigose, erect; corolla blue, its tube about 5 mm. long, very densely puberulent above the calyx, its limb about 1 cm. wide.

The type of this species was collected by Mohamed Nur bin Mohamed Ghose in the Botanic Gardens at Singapore, Federated Malay States, on October 21, 1924, and is deposited in the herbarium of the Bailey Hortorium at Ithaca. It was cultivated under the name of "Duranta plumieri Jacq."

DURANTA REPENS var. *GRANDIFLORA* Moldenke, var. nov.

Haec varietas a forma typica speciei recedit floribus majoribus, corollae limbo usque ad 1.8 cm. diametro.

This variety differs from the typical form of the species in its larger flowers, the corolla-limb being to 1.8 cm. wide, its margins more or less crisped.

The type of this variety was collected by Frank F. Gander in cultivation at 4681 50th Street, San Diego, California, on May 28, 1936, and is deposited in the herbarium of the Bailey Hortorium at Ithaca. Dr. Bailey states that the flowers of this variety may attain a diameter of 3/4 inch (approximately 2 cm.). They are violet-blue in color.

DURANTA SPRUCEI var. COLOMBIENSIS Moldenke, var. nov.

Haec varietas a forma typica speciei recedit calyce leviter puberulo vel strigilloso.

This variety differs from the typical form of the species in its calyx being only lightly puberulent or strigillose.

The type of this variety was collected by Brother Alberto [Apolinar-María 263] at San Pedro, Antioquia, Colombia, on July 25, 1938, and is deposited in the herbarium of the Field Museum of Natural History at Chicago.

LANTANA CAMARA var. HYBRIDA (Neubert) Moldenke, comb. nov.

Lantana hybrida Neubert, Deutsch. Gart. Mag. 10: 98. 1857; Lantana chrysantha Schmöger ex Neubert, loc. cit., in syn.

This is the dwarf yellow-flowered garden form.

LANTANA CAMARA var. MULTIFLORA (Otto & Dietr.) Moldenke, comb. nov.

Lantana multiflora Otto & Dietr., Allg. Gartenz. 9: 370. 1841.

LANTANA SCANDENS Moldenke, sp. nov.

Frutex alto-volubilis; ramis gracilibus inermis acutiuscule tetragonis hirsutulis; foliis oppositis nigrescentibus; petioliis gracillimis glanduloso-punctatis hirsutulis; lamina membranaceis ovatis breviter acuminatis, ad basin acutis, regulariter arguteque serratis utrinque plusminus strigosopilosis, maturitate supra scabris.

High-climbing vine; stems slender, unarmed, rather acutely tetragonal, more or less abundantly hirsutulous with stiff spreading short hairs and with shorter gland-tipped hairs beneath; nodes annulate, usually marked with a denser band of long-hirsute hairs; principal internodes 1.5--7.8 cm. long; leaves decussate-opposite, nigrescent in drying; petioles very slender, 4--6 mm. long, glandular-punctate and rather abundantly hirsutulous; blades membranous, ovate, 3.5--7 cm. long, 1.6--4.3 cm. wide, short-acuminate at apex, acute at base and often somewhat prolonged into the petiole, regularly sharp-serrate from the apex almost to the base, scattered strigose-pilose along the larger venation beneath, more uniformly so on the lamina above with bulbous-based hairs, causing the mature leaves to be quite scabrous above; midrib very slender; secondaries very slender, about 7 pairs inflorescence axillary, capitate; peduncles very slender, 1.5--6 cm. long, very sparsely hirsutulous with scattered white hairs and more abundantly pilosulous with much shorter gland-tipped hairs; heads hemispheric, 1--2.5 cm. wide, many-flowered; bractlets rather large, often foliaceous, acute, variable in size and shape, the inner ones lanceolate,

4--5 mm. long, the outer ones spatulate or elliptic, to 10 mm. long and 3.5 mm. wide, more or less strigillose on both surfaces; corolla "red and yellow or all red or all yellow", its tube about 10 mm. long, very narrow, densely puberulent outside, its limb 5--6 mm. wide.

The type of this species was collected by George B. Hinton (no. 12,315) at Villa Victoria, Pto de Aire, alt. 1480 m., Coalcomán, Michoacán, Mexico, on October 3, 1938, and is deposited in the Britton Herbarium at the New York Botanical Garden. The species is obviously closely related to L. Oama-ra L. of the West Indies, but differs in being a high-climbing vine and in its very thin nigrescent leaves, glandular pubescence, and foliaceous bractlets.

LIPPIA ANTAICA Loes. & Moldenke, sp. nov.

Frutex; ramis gracilibus strictis virgatis acute tetragonis adpresso-puberulis; foliis parvis; petiolis parvissimis vel obsolete; laminis firme chartaceis vel subcoriaceis flabelliformibus vel subrotundis (juventute obovatis), ad apicem rotundatis, ad basin maturitate truncatis vel subtruncatis (juventute subcuneatis), regulariter crenato-serratis revolutis, supra scaberrimis bullatis, subtus dense pubescentibus.

Shrub; branches slender, apparently strict and virgate, acutely tetragonal, brownish, appressed-puberulent throughout; principal internodes 2--3 cm. long; nodes not annulate; leaves decussate-opposite, small; petioles very slender, 1--2 mm. long or obsolete, densely short-pubescent; blades firmly chartaceous or subcoriaceous (when mature), flabelliform or subrotund, obovate when immature, to about 2 cm. long and wide when mature, with numerous smaller thinner and more obovate ones in their axils, rounded at apex, subtruncate or truncate at base (the immature and smaller ones acute or subcuneate at base), regularly and uniformly crenate-serrate from base to apex with rounded teeth, the margins revolute, very scabrous and bullate above, puberulent on the venation, densely pubescent over the entire surface beneath; midrib, secondaries, and veinlet reticulation deeply impressed above, the larger parts prominent beneath; inflorescence axillary, a pair at each node, capitate; peduncles very slender, erect, 5--10 mm. long, densely appressed-puberulent with grayish hair like the branches; heads densely many-flowered, about 8 mm. long and 10 mm. wide; bracts ovate, 2.5--3 mm. long, subacute at apex, densely short-pubescent; corolla 4--5 mm. long, its limb about 3 mm. wide.

The type of this species was collected by August Weberbauer (no. 5918) somewhere in Peru between 1909 and 1914, and is deposited in the herbarium of the Field Museum at Chicago. It is most unfortunate that the label on the type

specimen does not give the exact place and date of collection, but it was probably in the neighborhood of Anta in Cuzco.

LIPPIA FRANCOENSIS Moldenke, sp. nov.

Frutex (?); ramis ut videtur simplicibus rectis gracilibus acutiuscule tetraonis dense hirsutis glanduliferis velutinis; foliis oppositis; petiolis gracilibus dense albo-hirsutis; laminis coriaceis elliptico-subrotundis ad basin et apicem rotundatis regulariter serratis utrinque dense hirsutis subvelutinisque, subtus dense resinoso-punctatis.

Shrubby (?); stems apparently simple, erect, slender, rather acutely tetragonal, densely hirsute with stiff whitish hairs and shorter gland-tipped hairs, velutinous to touch; nodes annulate with a band of denser hirsute hairs; principal internodes 1--4.5 cm. long; leaves decussate-opposite; petioles slender, 2--5 mm. long, densely white-hirsute; blades coriaceous, elliptic-subrotund, somewhat lighter beneath, 1.2--4 cm. long, 1--2.8 cm. wide, rounded at apex and base, regularly serrate from the apex almost to the base with rounded revolute-margined teeth, densely hirsute on both surfaces, subvelutinous and densely resinous-punctate beneath; midrib, secondaries, and veinlet reticulation deeply impressed above, very prominent beneath; secondaries 5 or 6 per side, ascending, not much arcuate; inflorescence axillary, borne at the tips of the stems, usually 2 pairs, capitate; peduncles very slender, 0.8--3.5 cm. long, very densely hirsutulous with stiff white gland-tipped hairs; heads hemispheric, about 2 cm. in diameter, many-flowered; bracts large, foliaceous, red, ovate, to about 10 mm. long and 8 mm. wide, blunt at apex, densely pubescent with short silky mostly gland-tipped hairs, ciliate-margined; corolla yellow.

The type of this handsome species was collected by Guilherme Ehrt [Herb. Inst. Biol. São Paulo 4037] in fields at Franca, São Paulo, Brazil, on April 11, 1920, and is deposited in the Britton Herbarium at the New York Botanical Garden. It was originally distributed as *L. lupulina* Cham., to which the species is closely related.

LIPPIA PINETORUM Moldenke, sp. nov.

Frutex; ramulis graciunculis obtuse tetragonis obsolete pilosis vel glabrescentibus; sarmentis nigrescentibus pilosis; petiolis gracilibus piloso-hirsutulis; laminis chartaceis brunnescentibus ellipticis acutis vel obtusis, ad basin acutis vel subacuminatis, regulariter serratis revolutis, supra bullatis et scabris et hirsutulis, subtus sparse pilosis; inflorescentiis axillaribus perspicue involucratis.

Shrub; branchlets rather slender, obtusely tetragonal, grayish, obsoletely scattered-pilose or glabrescent; twigs

nigrescent in drying, more abundantly pilose with scattered short spreading hairs; nodes annulate; principal internodes 2--6 cm. long; leaves decussate-opposite; petioles slender, 5--10 mm. long, sparsely or rather densely pilose-hirsutulous with stiff spreading hairs; blades chartaceous, dark-green above, lighter beneath, brunnescent in drying, elliptic, 2--7.5 cm. long, 1.8--4 cm. wide, acute or obtuse at apex, acute or subacuminate at base, regularly serrate from apex almost to base with blunt revolute-margined teeth, bulate and scabrous above, rather abundantly hirsutulous with bulbous-based whitish hairs above, very sparsely and obscurely pilose beneath; the slender midrib and 4--7 arcuate-ascending secondaries impressed above, sharply prominent beneath; veinlet reticulation abundant, subimpressed above, prominulous beneath; inflorescence simple, axillary, borne at the tips of the twigs, capitate, conspicuously involucrate, about equaling or shorter than the subtending leaves; peduncles very slender, 1--2 cm. long, densely hirsutulous and brownish-pubescent with gland-tipped hairs; heads 5--17 mm. in diameter; involucral bractlets large and foliaceous, ovate, to 8 mm. long and 5 mm. wide, acute at apex, densely short-pubescent with brownish gland-tipped hairs and scattered-hirsutulous with longer white hairs.

The type of this species was collected by Eizi Matuda (no. 3925) in pine land, Mt. Ovando, Chiapas, ^Mexico, between November 14 and 18, 1939, and is deposited in the Britton Herbarium at the New York Botanical Garden. It was originally distributed as L. cardiostegia Benth., to which the species is obviously related.

LIPPZIA TAYACAJANA Moldenke, sp. nov.

Frutex; ramis gracilibus tetragonis costatis, juventute dense breviterque pubescentibus, senectute glabrescentibus; internodiis valde abbreviatis; petiolis brevissimis vel obsolete; laminis firme chartaceis oblanceolato-ellipticis, ad apicem rotundatis vel acutis, ad basin cuneato-attenuatis, revolutis serratis, supra scabris substrigosis, subtus dense tomentellis.

Shrub, about 1 m. tall; branches slender, tetragonal, ribbed, densely short-pubescent when young, glabrescent in age and then with peeling shreddy bark, brown, somewhat twiggy below; nodes not annulate; principal internodes much abbreviated, 1--3 cm. long; leaves decussate-opposite; twigs very short, leafy; petioles slender, 1--2 mm. long and densely short-pubescent or obsolete; blades firmly chartaceous, uniformly gray-green on both surfaces, oblanceolate-elliptic, 0.8--1.9 cm. long, 3--9 mm. wide, rounded or acute at apex, cuneate-attenuate at base, revolute along the margins and serrate from about the middle to the apex,

scabrous and subtrigose above, densely tomentellous beneath; midrib and slender secondaries deeply impressed above, very prominent beneath; inflorescence axillary, solitary in each axil, 1--1.5 cm. long, capitate, rather few- or submany-flowered; peduncles very slender or filiform, 10--12 mm. long, densely appressed-pubescent with antrorse canescent or yellowish hairs; heads small, about 5 mm. long and wide; bractlets lanceolate, about 4 mm. long and 1.5 mm. wide, densely appressed-strigose-pubescent, sharply acute; corolla about 5 mm. long, its limb about 2 mm. wide.

The type of this species was collected by August Weberbauer (no. 6510) in the valley of the Mantaro, northeast of Pampas, prov. Tayacaja, dept. Huancavelica, Peru, at an altitude of 1800--1900 m., in March, 1913, and is deposited in the United States National Herbarium at Washington. The species is related to L. ferruginea H.B.K.

PHYLA NODIFLORA var. LONGIFOLIA Moldenke, var. nov.

Hæc varietas a forma typicali speciei recedit foliis valde elongatis oblanceolato-cuneatis usque ad 5.5 cm. longis et 10 mm. latis, versus apicem argute patento-dentatis.

This variety differs from the typical form of the species in its much more uniformly elongate leaves, the blades being oblanceolate-cuneate, to 5.5 cm. long, 4--10 mm. wide, and sharply spreading-dentate toward the apex.

The type of this variety was collected by T. G. Yuncker, J. M. Koepper, and K. A. Warner (no. 8327) in sandy soil on the beach at Salado, in the vicinity of La Ceiba, Atlántida, Honduras, on July 10, 1938, and is deposited in the Britton Herbarium at the New York Botanical Garden.

PHYLA NODIFLORA var. ROSEA (D. Don) Moldenke, comb. nov.

Zappania nodiflora var. rosea D. Don in Sweet, Brit. Fl. Gard. 6: pl. 225. 1834.

STACHYTARPHETA SCHAUERII Moldenke, nom. nov.

Stachytarpheta villosa (Pohl) Schau. in A. DC., Prodr. 11: 570. 1847 [not S. villosa Cham., Linnæa 7: 247. 1832] -- Melananthus villosus Pohl, Pl. Bras. Ic. 1: 76, pl. 60. 1827.

VERBENA BAJACALIFORNICA Moldenke, sp. nov.

Herba annua; ramis rectis simplicibus vel pauci-brachiatis obtuse tetragonis sparse hirsutulis glabrescentibus; petiolis gracillimis dense vel sparse hirsutulis submarginatis; laminis chartaceis ovatis pinnatifido-incisus vel obscure 3-partitis subrevolutis utrinque sparse hirsutulo-pilosus.

Annual herb; stems erect, simple or sparsely branched, 8--15 cm. long, obtusely tetragonal, sparsely hirsutulous

with mostly scattered, stiff, whitish, non-glandular hairs about 1 mm. long, glabrescent in age, sometimes decumbent at the very base and throwing out roots from the lower nodes; leaves decussate-opposite, petiolate; petioles distinct, very slender, 1--10 mm. long, densely or sparsely hirsutulous with stiff, white, non-glandular hairs like the stems, slightly margined; blades chartaceous, uniformly green on both surfaces, ovate in outline, 0.8--2.7 cm. long, 0.4--1.8 cm. wide, sparsely hirsutulous-pilose with rather short and subappressed whitish hairs on both surfaces, more densely so along the midrib and larger veins beneath, abundantly pinnatifid-incised, sometimes obscurely 3-parted with the divisions again abundantly pinnatifid-incised, the lobes rounded, subrevolute along the margins; inflorescence erect, long-pedunculate, 5--15 or more cm. long; peduncles slender, obtusely tetragonal, 2--6.5 cm. long, sparsely hirsutulous-pilose with rather scattered non-glandular whitish hairs; rachis densely many-flowered, more densely hirsutulous, not glandular, the flowers close together and densely imbricate before, during, and even after anthesis or the 2 or 3 lowermost to 5 mm. apart in fruit; bractlets very small, lanceolate, 2--3 mm. long, about half the length of the calyx, attenuate at apex, glabrate except for the long-ciliate margin; calyx tubular, 4--5 mm. long, irregularly short-pubescent with whitish spreading hairs, obscurely (if at all) glandular; corolla 7--8 mm. long, slightly projecting from the calyx, its tube slightly puberulent at apex outside, its limb about 4 mm. wide.

The type of this species was collected by Forrest Shreve (no. 7169) eighteen miles north of El Refugio, Baja California, Mexico, on March 16, 1935, and is deposited in the herbarium of the University of Michigan. It is closely related to *V. Shrevei* Moldenke, but differs in its ovate abundantly incised-pinnatifid leaves, sparser non-glandular pubescence on stems and peduncles, densely flowered spikes with closely imbricate flowers even after anthesis, and very short non-glandulose bractlets.

VERBENA CLOVERI var. LILACINA Moldenke, var. nov.

Haec varietas a forma typica speciei recedit rhachide calycibusque bracteolisque brevissime pubescentibus, pilis glanduliferis, et corollis lilacinis.

This variety differs from the typical form of the species in its much shorter and densely glandular pubescence on the rachis, calyx, and bractlets and in its lavender (instead of purple) corollas.

The type of this handsome variety was collected by Cyrus Longworth Lundell and Amelia A. Lundell (no. 10,142) off U. S. Highway 81 near Millett, La Salle County, Texas, on April

9, 1941, and is deposited in the Britton Herbarium at the New York Botanical Garden.

VERBENA LUNDELLIORUM Moldenke, sp. nov.

Herba; ramis graeilibus obtuse tetragonis albido-hirsutulis; petiolis 5--10 mm. longis valde hirsutulis submarginatis; laminis ovatis acutis, ad basin subtruncatis et in petiolum subprolongatis, ad marginem crasse et irregulariter inciso-dentatis, utrinque sparse adpresso-pilosis, pilis albidis; inflorescentiis spicatis abbreviatis dense multifloris; pedunculis acute tetragonis valde hirsutulis; bracteolis lineari-lanceolatis ca. 6 mm. longis dense puberulis, ad marginem longe ciliatis.

Herb, about 18 inches tall; stems slender, obtusely tetragonal, rather abundantly hirsutulous with stiff white hairs about 1 mm. long; branches numerous, very slender, erect or ascending, obtusely tetragonal, more densely hirsutulous; leaves decussate-opposite, numerous; petioles very slender, 5--10 mm. long, abundantly hirsutulous like the branches, slightly margined; blades thin-chartaceous or membranous, ovate, somewhat lighter-green beneath, 1.1--3.5 cm. long, 7--22 mm. wide, acute at apex, subtruncate at base and slightly prolonged into the petiole at the center, coarsely and irregularly incised-dentate along the margins with blunt or subacute teeth, sparsely scattered-pilose on both surfaces with appressed whitish hairs; inflorescence spicate, abbreviated, 2--6 cm. long, densely many-flowered, the flowers closely imbricate before and during anthesis, somewhat more separated in fruit; peduncles (8--30 mm. long) and rachis very slender or filiform, more acutely tetragonal, abundantly hirsutulous like the branches, often with shorter glandular hairs interspersed; bractlets linear-lanceolate, about 6 mm. long, slightly shorter or longer than the calyx, densely puberulent, long-ciliate along the margins with stiff white hairs; calyx tubular, swollen, 5--6 mm. long, somewhat puberulent and also sparsely hirsutulous with longer white hairs, not glandular; corolla small, inconspicuous, barely protruding from the calyx, about 7 mm. long, purple, its limb about 2 mm. wide.

The type of this curious woodland species was collected by C. L. Lundell and A. A. Lundell (no. 8698) -- in whose joint honor it is named -- in a clearing at the Palm Grove, south of Brownsville, Cameron County, Texas, on May 4, 1940, and is deposited in the Britton Herbarium at the New York Botanical Garden.

VERBENA PLICATA var. *DEGENERI* Moldenke, var. nov.

Haec varietas a forma typica speciei recedit bracteolis firmis rigidis late ovatis usque ad 9 mm. longis et 6 mm.

latis stramineis sicis abruptissime longeque acuminatis.

This variety differs from the typical form of the species in its bractlets being very firm and rigid, broadly ovate, dry, stramineous, to 9 mm. long and 6 mm. wide, and very abruptly long-acuminate.

The type of this desert variety was collected by my good friend and co-worker, Otto Degener (no. 5184), near Fort Stockton, Pecos County; Texas, on August 2, 1933, and is deposited in the Britton Herbarium at the New York Botanical Garden. It affords me exceptional pleasure to dedicate this variety to so careful and indefatigable a botanical collector, whose monumental "Flora Hawaiiensis" is one of the most important and valuable floras now being written.

VERBENA RUNYONI Moldenke, sp. nov.

Herba alta annua; caulis rectis crassiusculis argute tetragonis sparse hirsutulis glabrescentibus; foliis sessilibus amplexicaulibus plusminus tripartitis, segmentis pinnatifido-incisis, utrinque valde albido-hirsutus, pilis bulbosis deciduis, laminis senectute scabris; inflorescentiis spicatis compositis, ramis gracilibus rectis densiuscule multifloris, floribus densissime imbricatis; pedunculis rhachideque gracilibus argute tetragonis patento-pilosis vel breviter pubescentibus, pilis glandulosis brevissimis.

Tall annual herb; stems erect, green, rather stout, sharply tetragonal, sparsely hirsutulous with short whitish divergent hairs especially on the angles and at the nodes, glabrescent in age, more or less scabrellous on the angles; internodes elongated; leaves decussate-opposite, sessile, clasping, 2--6 cm. long, 0.8--3 cm. wide, more or less 3-parted, each division pinnatifid-incised with broad acute teeth, abundantly hirsutulous on both surfaces with rather short whitish hairs which are bulbous-based on the upper surface and wear off there, leaving the upper surface scabrous on older leaves; inflorescence spicate, compound, the branches slender, erect, 14--25 cm. long, rather closely many-flowered, often bearing 1--3 pairs of much reduced leaves near the base, the flowers with a faint odor, very densely imbricate before and during anthesis, rather uniformly separated in fruit; peduncles (2--6 cm. long) and rachis slender, sharply tetragonal, rather densely or sparsely spreading-pilose or -pubescent, glandular, the pubescence very short; bractlets linear-lanceolate, about 3 mm. long, equaling the calyx, sharply attenuate, rather sparsely puberulent and glandular, the margins sparsely and irregularly ciliolate toward the base; calyx tubular, about 3 mm. long, glandular-pilose with short spreading hairs; corolla blue, about 6 mm. long, its tube puberulent at the apex outside, its limb about 4 mm. wide.

The type of this hitherto neglected species was collected by my good friend, Robert Runyon (no. 2485) in clay soil at 10 m. altitude in open moist ground and ditches, El Jardin tract, Cameron County, Texas, on April 2, 1941, and is deposited in the Britton Herbarium at the New York Botanical Garden. It is with considerable satisfaction that I dedicate this fine species to Mr. Runyon, who has done such noteworthy work in botanizing so thoroughly the region of Cameron and Hidalgo Counties, Texas, and in collecting such ample and excellent material to substantiate his records through the years. Museum and herbarium workers are deeply indebted to field workers like this, to whom so much of the credit in the discovery of novelties is due. The species is related to and has hitherto been confused with *V. xutha* Lehm., which differs notably in its dense long-strigose or hirsute non-glandular pubescence throughout, especially on the bractlets and calyx, and which inhabits dry instead of uniformly moist ground.

VERBENA SHREVEI Moldenke, sp. nov.

Herba annua; ramis decumbentibus gracilibus obtuse tetragonis dense patenti-pubescentibus; foliis petiolatis vel subsessilibus; petiolis marginatis dense hirsutulis vel patenti-pubescentibus; laminis chartaceis ellipticis utrinque dense strigosis plerumque plusminus tripartitis, partibus paucè inciso-lobatis, lobis rotundatis.

Annual herb; stems decumbent at base, slender, obtusely tetragonal, more or less densely spreading-pubescent with whitish often glandular hairs, often many-branched with erect or ascending branches, which are usually somewhat more densely spreading-pubescent; leaves decussate-opposite, petiolate (or the uppermost subsessile); petioles very slender, 1--10 mm. long, more or less winged, densely hirsutulous or spreading-pubescent; blades chartaceous, rather uniformly green on both surfaces, elliptic in outline, 1--2 cm. long, 9--17 mm. wide, rather densely strigose on both surfaces, usually more or less 3-parted, the divisions sparingly incised-lobed, the lobes rounded at apex; inflorescence spicate, elongating to 10 cm. or more, densely many-flowered, the rachis elongating even during anthesis and thus separating the individual flowers by 4--13 mm. toward the base of the spike; peduncles (1--4 cm. long) and rachis slender, obtusely tetragonal, densely spreading-pubescent or hirsutulous with whitish often glandular hairs; bractlets lanceolate, about 4 mm. long, shorter than the calyx, attenuate at apex, densely glandular-pubescent on the back, densely long-ciliate with longer stiff white non-glandular hairs on the margins; calyx tubular, 5--6 mm. long, rather densely glandular-pubescent and also more or less scattered white-hirsute

ulous; corolla small, 7--8 mm. long, slightly projecting from the calyx, its tube minutely puberulent at the apex outside, its limb about 4 mm. wide.

The type of this species was collected by my esteemed friend, Dr. Forrest Shreve (no. 7119) -- in whose honor it is named -- at an elevation of 1900 feet, 19 miles northeast of Comondón, Baja California, Mexico, on March 16, 1935, and is deposited in his herbarium at Tucson, Arizona. It has hitherto been confused with V. pumila Rydb.

VERBENA GENTRYI Moldenke, sp. nov.

Herba perennis ramulosa; ramis graciusculis tetragonis sparsissime pilosis vel glabris; petiolis indistinctis et alatis vel obsolete; laminis chartaceis ellipticis acutis, ad basin cuneatis, regulariter arguteque serratis utrinque adpresso-strigillosis non scabris.

"Low spreading bush, branched from base"; branches rather slender, tetragonal, often purplish, very sparsely scattered pilose with rather long weak hairs or glabrous; nodes annulate; principal internodes 1--3.5 cm. long; leaves decussate-opposite; petioles indistinct, to 5 mm. long, and winged, or absent, amplate and clasping the stem at base, sparsely scattered-pilose or glabrescent; blades chartaceous, lighter beneath, elliptic, 3--7 cm. long, 1--1.7 cm. wide, acute at apex, cuneate at base and prolonged into the winged petiole, regularly sharp-serrate from the apex to below the middle, rather abundantly appressed-strigillose on both surfaces, more densely so beneath, not scabrous above, not glandular; venation slightly subimpressed above, prominulous beneath; inflorescence spicate, compound, the spikes very slender, to 18 or more cm. long, many-flowered, the flowers closely imbricate before and during anthesis, rather uniformly separated in fruit; peduncles (1--3 cm. long) and rachis slender, glabrate; bractlets lanceolate, very small, about 1--2 mm. long, subglabrate or very minutely ciliolate at the base, sharply acuminate; calyx narrow-tubular, about 1.5 mm. long (to 2 mm. long in fruit), glabrous or subglabrate; corolla very tiny.

The type of this species was collected by Howard Scott Gentry (no. 5923) -- in whose honor it is named -- in a moist canyon bottom, short-tree forest, altitude 1500 feet, Quebrado de Platano, Sierra Monterey, Sinaloa, Mexico, on March 13, 1940, and is deposited in the Britton Herbarium at the New York Botanical Garden. It was distributed by the collector as V. urticifolia L., to which it is related.

VERBENA PINETORUM Moldenke, sp. nov.

Herba; caulis gracilibus argute tetragonis crasse hirsutis; petiolis late alatis; laminis chartaceis profunde pinn-

atifido-incisis vel tripartitis, supremis plerumque oblongis vel linearibus et integris, utrinque dense hirsutis, supremis adpresso-strigosis; inflorescentiis elongatis spicatis.

Herb; stems slender, sharply tetragonal, bristly-hirsute with whitish hairs about 1 mm. long, much more densely so at base of plant; leaves decussate-opposite, 2--3 cm. long; petioles broadly winged, not very distinct from the blades; blades chartaceous, uniformly green on both surfaces, deeply pinnatifid-incised, the lower ones often 3-parted and each division again pinnatifid-incised, the uppermost much reduced and simply 3-parted with entire divisions or even oblong or linear and entire, densely hirsute on both surfaces, the larger leaves scabrous with bulbous-based hairs above and very densely white-hirsute beneath, the upper leaves with much more appressed-strigose hairs, especially above; inflorescence spicate, elongate; spikes slender, to 21 or more cm. long, loosely many-flowered (dense in bud and during anthesis, the rachis later elongating considerably), not glandular; peduncles slender, sharply tetragonal, 2--3 cm. long, hirsute like the stems; rachis also tetragonal and densely hirsute; bractlets lanceolate, about 4 mm. long, attenuate at apex, rather densely strigose-pilose, about equaling the calyx in anthesis and fruit; calyx tubular, 3.5--4 mm. long, densely strigillose; corolla pale-blue, showy, 10--11 mm. long, its limb large and spreading.

The type of this species was collected by Howard Scott Gentry (no. 1522) in pine flats, transition habitat, Sierra Charuco, Río Fuerte, Chihuahua, Mexico, on July 22, 1935, and is deposited in the herbarium of Dr. Forrest Shreve at Tucson, Arizona. It was originally distributed as V. neomexicana (A. Gray) Small

VERBENA PINNATILOBA (Kuntze) Moldenke, comb. nov.

Verbena megapotamica var. tweediana f. pinnatiloba Kuntze, Rev. Gen. Pl. 3²: 256. 1898.

xVERBENA TEASII Moldenke, hybr. nov.

Herba cultorum hybrida; ramis decumbentibus vel ascendentibus multoramosis gracilibus obtuse tetragonis sparse vel dense hirsutulis; foliis perversiabilis dense strigosis vel supra sparse strigillosis et subtus patento-pubescentibus, plusminus profunde inciso-pinnatifidis plerumque tripartitis; inflorescentiis spicatis, juventute subcapitatis, dein elongatis, densissime multifloris; floribus arcte imbricatis

Garden hybrid between V. tenuisecta Briq. and V. hybrida Voss, with intermediate characters; stems decumbent or ascending, abundantly branched with ascending branches, slender, obtusely tetragonal, sparsely or densely hirsutulous with rather stiff whitish hairs or merely spreading-pilose,

the smaller branches often more acutely tetragonal; leaves decussate-opposite, numerous, very variable in shape and size, varying from densely strigose with long white appressed hairs on both surfaces to sparsely strigillose above and spreading-pubescent along the midrib and larger veins beneath, more or less deeply incised in pinnatifid fashion, often more or less 3-parted, the lowest divisions usually again pinnatifid-incised, the lobes all sharply acute at apex, the body of the blade and lowest lobes often relatively very broad and with recurved secondary lobes; inflorescence spicate, at first flattened-subcapitate, later elongating to 15 cm. or more, very densely many-flowered, the flowers closely overlapping before, during, and after anthesis; peduncles (1.5--7 cm. long) and rachis slender, acutely tetragonal, densely hirsutulous or spreading-pilose, not glandular; bractlets relatively very short, lanceolate, about 4 mm long, about $1/3$ as long as the calyx, attenuate to the apex, rather densely strigillose with white appressed hairs, densely white-ciliate toward the base; calyx elongate-tubular, 8--13 mm. long, densely short-pubescent with spreading hair or densely white-strigose with closely appressed hairs; corolla 15--20 mm. long, showy, blue, purple, red, pink, or white, its tube about $1 \frac{1}{3}$ times as long as the calyx, glabrous throughout or slightly puberulent at the apex outside, its limb 5--9 mm. in diameter.

The type of this hybrid was collected by G. A. Stevens in a nursery at Harrisburg, Dauphin County, Pennsylvania, on June 20, 1933, and is deposited in the herbarium of the Bailey Hortorium at Ithaca. It is named in honor of Edward Teas who first developed this hybrid in his nurseries at Houston, Texas, by crossing V. hybrida and V. tenuisecta. It is the source of the races of cultivated verbena called Ceres (dark red), Rowena (pink), Albion (white), Ruth (pink), Belaire, Madge Roberts, and Teas Hybrid.

xVITEX HYBRIDA Moldenke, hybr. nov.

Arbor vel frutex hybridus naturalis; foliolis anguste lanceolatis 5 longe attenuatis utrinque dense canescento-puberulis; inflorescentiis distincte ramulosis; ramulis gracillimis ubique dense canescento-puberulis.

A natural hybrid between V. Agnus-castus L. and V. Negundo L. with intermediate characters. The leaflets are narrow-lanceolate, 5 in number, the three central ones 5.5--10 cm. long and 7--16 mm. wide, long-attenuate at apex, densely canescent-puberulent on both surfaces, on petiolules 3--5 mm. long, the lowest two very much smaller. The inflorescences are distinctly branched, the branches very slender, 5--15 mm. long, with numerous nodes and flowers (in the fashion of V. Negundo), densely canescent-puberulent throughout.

The type of this variety was collected at Bhola in Sindh, India, in July, 1891, and is deposited in the herbarium of the University of Michigan at Ann Arbor. No collector is designated on the label.

VITEX REGNELLIANA Moldenke, Geogr. Distrib. 27, nom. nud. (1939), sp. nov.

Frutex vel arbor; ramulis gracilibus medullosis obtuse tetragonis puberulis vel breviter pubescentibus glabrescentibus; sarmentis densissime ferrugineo-velutinis vel villosotomentosis; foliis oppositis 3-foliolatis; petiolis gracilibus densissime velutino-villosis vel tomentososis ferrugineis; foliolis sessilibus vel subsessilibus oblongis vel anguste ellipticis vel oblanceolatis acutis vel abruptissime breviterque acuminatis integris, ad basin acutis vel obtusis, utrinque velutinoso-villosis vel tomentososis; inflorescentiis axillaribus cymosis valde bracteatis ubique dense ferrugineo-velutinis vel villosotomentosis.

Shrub or tree; branchlets slender, medullose, obtusely tetragonal, grayish, compressed and rather ampliate at the nodes, puberulent or short-pubescent when young, becoming glabrate in age; twigs slender, tetragonal, compressed, very densely velutinous with ferruginous villous-tomentose pubescence, ampliate-compressed at the nodes; nodes annulate; principal internodes 1--6 cm. long; leaf-scars very large and corky, greatly elevated; buds densely ferruginous-villous or -velutinous; leaves decussate-opposite, 3-foliolate; petioles slender, 4--10.5 cm. long, slightly ampliate at the base, flattened above, very densely velutinous-villous or tomentose with ferruginous hairs; leaflets subequal, sessile or subsessile; leaflet-blades thin-chartaceous, uniformly dark- or bright-green on both surfaces under the ferruginous tomentum, the central one oblong, narrow-elliptic, or oblanceolate, 5.5--10 cm. long, 1.5--3.2 cm. wide, acute or very abruptly short-acuminate at apex, entire, acute or obtuse at base, very densely velutinous-villous on both surfaces or somewhat more tomentose beneath, the pubescence golden or ferruginous, the lateral leaflets similar in all respects only often somewhat inequilateral and usually more obtuse at the base; midrib slender, flat or subprominent above, prominent beneath; secondaries slender, about 10 per side, mostly hidden by the long pubescence on both surfaces or prominent beneath; vein and veinlet reticulation not discernible above, mostly obscure beneath or sometimes the largest parts slightly subprominent beneath; inflorescence axillary, cymose, 3--8 cm. long, 2--4.5 cm. wide, 1--3 times dichotomous, dense, the branches much abbreviated, densely ferruginous-velutinous or villous-tomentose throughout, conspicuously bracteate; peduncles slender, 1.5--5.2 cm. long, flatten-

ed, densely ferruginous-velutinous or villous-tomentose like the twigs and petioles; pedicels very slender, 1--2 mm. long, or obsolete on lateral flowers; bracts numerous, simple, oblong or lanceolate, 1--1.8 cm. long, densely velutinous like the leaflets, sessile, acute; bractlets linear, 3--6 mm. long, densely ferruginous-pubescent; prophylla linear, about 1 mm. long, hidden by the tomentum; corolla violet or white.

The type of this very handsome species was collected by Don Bento Pickel (no. 3211) in a thicket at Tapera, Pernambuco, Brazil, on January 26, 1933, and is deposited in the Langlois Herbarium of the Catholic University of America at Washington. The species is known also from São Paulo and is named in honor of Anders Fredrik Regnell, famous explorer and botanist, to whom we owe so much of our knowledge of the Brazilian flora.

VITEX SPONGIOPARPA var. LONGIDENTATA Moldenke, var. nov.

Haec varietas a forma typica speciei recedit lobis calycis 1.5--2 mm. longis et bracteolis prophyllisque persistentibus.

This variety differs from the typical form of the species in its calyx-teeth being 1.5--2 mm. long (instead of 0.5--1 mm.) and its bractlets and prophylla being persistent.

The type of this variety was collected by Adolfo Ducke [Herb. Jard. Bot. Rio de Janeiro 23,763] in "catinga" woods at Igarapé Jurupary, on an affluent of the lower Rio Uaupés, Amazonas, Brazil, on November 2, 1932, and is deposited in the Britton Herbarium at the New York Botanical Garden. The collector describes the plant as a small tree with white flowers.

VITEX TRIFOLIA var. VARIEGATA Moldenke, var. nov.

Haec varietas a forma typica speciei recedit laminis foliolorum irregulariter albo-variegatis.

This variety differs from the typical form of the species in its leaflet-blades being variegated, whitish along the edges in irregular mottles.

The type of the variety was collected by my good friend, Walter M. Buswell, from a cultivated specimen at or near Miami, Dade County, Florida, in 1940, and is deposited in the herbarium of the Bailey Hortorium at Ithaca.

VITEX WITTROCKIANA Moldenke, Geogr. Distrib. 20 & 27, nom. nud. (1939), sp. nov.

Arbor; ramulis crassiusculis obtuse tetragonis vel subteretibus sparsissime minutissimeque puberulis glabrescentibus; sarmentis acutiuscule tetragonis sparse puberulis; foliis oppositis 5-foliolatis; petiolis gracilibus sparsiuscule

puberulis; folioliis subsessilibus vel brevipetiolutatis tenuiter chartaceis vel submembranaceis oblongis vel lanceolatis vel oblanceolatis longe acuminatis vel caudatis integris, ad basin acutis vel subacuminatis, supra glabris nitidis, subtus glabratis vel obscure puberulis; inflorescentiis axillaribus capitatis dense multifloris sparse strigilloso-puberulis.

Tree, to 7 m. tall; branchlets rather stout, brownish, obtusely tetragonal or subterete, not very pithy, very sparsely and minutely puberulent, becoming glabrous and rather shiny; twigs very slender, rather acutely tetragonal or compressed, short, rather sparsely puberulent, less so in age; nodes not annulate; principal internodes 1--6 cm. long; leaf-scars mostly not very large or corky or prominent; leaves decussate-opposite, 5-foliolate; petioles slender, 2--5 cm. long, convex or slightly keeled beneath, conspicuously flattened above, rather sparsely puberulent, not noticeably amplicate at base nor disciform at apex; leaflets usually unequal, the 2 lowermost much smaller than the 3 central ones, all subsessile or the central one short-petiolute on a petiolule which is slightly puberulent and margined and to 1 mm. long; leaflet-blades thin-chartaceous or submembranous, dark-green and rather shiny above, lighter beneath, the central one oblong, lanceolate, or oblanceolate, 3.5--8.5 cm. long, 2--3 cm. wide, long-acuminate or caudate at apex, entire, acute or subacuminate at base, glabrous and shiny above, glabrate beneath or obscurely puberulent on the midrib and secondaries; midrib slender, flat or slightly impressed above; secondaries slender, 7--18 per side, ascending, not much arcuate except at the margins, where they are arcuately joined, flat or subprominulous above, prominulous beneath; vein and veinlet reticulation abundant, very fine, subprominulous on both surfaces; inflorescence axillary, capitate, 5--8.5 cm. long, 1--2 cm. wide, densely many-flowered, sometimes with a few very short branches arranged in subumbelloid form; peduncles slender, compressed, 4--7.3 cm. long, sparsely strigilloso-puberulent; pedicels very slender and to 1 mm. long or usually obsolete; bracts absent; bractlets linear, 1--3 mm. long; prophylla setaceous, minute; corolla violet.

The type of this species was collected by João Geraldo Kuhlmann (no. 2915) in campo at Caracarahy on the Rio Branco, Amazonas, Brazil, in February, 1913, and is deposited in the United States National Herbarium at Washington. The species is also known from adjacent Venezuela and is named in honor of Gustave Ludwig Wittrock, custodian of the herbarium at the New York Botanical Garden, conscientious worker on all botanical subjects, and expert on the plants used by the North American Indians.